



Analytical Resources, Incorporated
Analytical Chemists and Consultants

September 22, 2009

Doug Morell
Golder Associates Inc.
18300 NE Union Hill Road, Suite 200
Redmond, WA 98052

RE: Project: Avery Landing, 073-93312
ARI Job No: PN10, PN14, PN53, & PN54

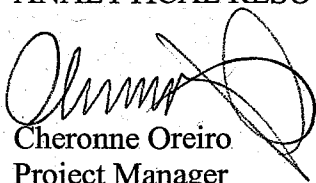
Dear Mr. Morell:

Please find enclosed the original Chain-of-Custody (COC) records, sample receipt documentation, and the data package for the project referenced above.

Sample receipt and details of these analyses are discussed in the Case Narrative.

An electronic copy of this package will remain on file with Analytical Resources, Inc. (ARI). Should you have any questions or problems, please feel free to call me at any time.

Sincerely,
ANALYTICAL RESOURCES, INC.



Cheronne Oreiro
Project Manager

-For-

Kelly Bottem
Client Services Manager
(206) 695-6211
kellyb@arilabs.com

cc: eFile: PN10

Enclosures

Chain of Custody
Documentation

prepared
for

Golder Associates

Project: Avery Landing, 073-93312-03

ARI JOB NO: PN10, PN14, PN53, PN54

prepared
by

Analytical Resources, Inc.

SAMPLE CHAIN OF CUSTODY

Send Report To Doug Morell

Company Golder Associates

Address 18300 NE Union Hill Road

City, State, ZIP Redmond WA 98052

Phone # 425-883-0777 Fax # 425-882-5498

SAMPLERS *(signature)*

PROJECT NAME/NO.

Avery Landing
073-93312

PO #

REMARKS

REMARKS
Please send Tier IV Data Package (EPA
CLP deliverable).

Page # 1 of

TURNAROUND TIME

~~X~~ Standard (~~2-11-21-23~~)

☐ RUSH

Rush charges authorized by:

SAMPLE DISPOSAL

☒ **Dispose after 30 days**

☐ Return samples☐ Will call with instructions[illegible]

Friedman & Bruya, Inc.
3012 10th Avenue West

Seattle, WA 98119-2029

PA (206) 285-8282

For (206) 283-5044

FORMS\COC\COC.DOC

SIGNATURE

Relinquished by:

Received by:

Relinquished by:

Received by:

PRINT NAME

K. Longier

A. Volgardsen

COMPANY

Golden Associates

AR 1

DATE _____

9/3/09

9/4/00

TIME

1330

955

* Please send copy of received CR

Samples received at 3.4 °C



Analytical Resources,
Incorporated
Analytical Chemists and
Consultants

Cooler Receipt Form

ARI Client: Golder

COC No(s): _____ NA

Assigned ARI Job No: PN10

Project Name: Avery Landing

Delivered by: Fed-Ex UPS Courier Hand Delivered Other: _____

Tracking No: 8697 3361 4340 NA

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of to cooler? YES NO

Were custody papers included with the cooler? YES NO

Were custody papers properly filled out (ink, signed, etc.) YES NO

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry) 3.4

If cooler temperature is out of compliance fill out form 00070F Temp Gun ID#: 101886

Cooler Accepted by: AV Date: 9/4/09 Time: 9 55

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler? YES NO

What kind of packing material was used? ... Bubble Wrap Wet Ice Gel Packs Baggies Foam Block Paper Other: _____

Was sufficient ice used (if appropriate)? NA YES NO

Were all bottles sealed in individual plastic bags? YES NO

Did all bottles arrive in good condition (unbroken)? YES NO

Were all bottle labels complete and legible? YES NO

Did the number of containers listed on COC match with the number of containers received? YES NO

Did all bottle labels and tags agree with custody papers? YES NO

Were all bottles used correct for the requested analyses? YES NO

Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs)... NA YES NO

Were all VOC vials free of air bubbles? NA YES NO

Was sufficient amount of sample sent in each bottle? YES NO

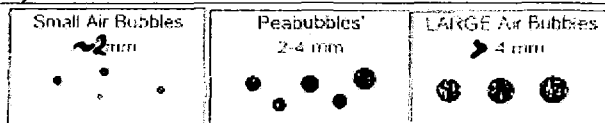
Samples Logged by: AV Date: 9/4/09 Time: 1046

**** Notify Project Manager of discrepancies or concerns ****

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:

By: _____ Date: _____



Small → "sm"
Peabubbles → "pb"
Large → "lg"
Headspace → "hs"

PRESERVATION VERIFICATION 09/04/09

Page 1 of 1



ARI Job No: PN10

PC: Kelly

VTSR: 09/04/09

Inquiry Number: NONE

Analysis Requested: 09/04/09

Contact: Morell, Douglas

Client: Golder Associates

Logged by: AV

Sample Set Used: Yes-481

Validatable Package: Lv4

Deliverables:

Project #: 073-93312

Project: Avery Landing

Sample Site:

SDG No:

Analytical Protocol: In-house

LOGNUM		CN	WAD	NH3	COD	FOG	MET	PHEN	PHOS	TKN	NO23	TOC	S2	AK102	Fe2+	DMET	DOC	ADJUSTED		LOT	AMOUNT	
ARI ID	CLIENT ID	>12	>12	<2	<2	<2	<2	<2	<2	<2	<2	<2	>9	<2	<2	FLT	FLT	PARAMETER	TO	NUMBER	ADDED	DATE/BY
09-20720 PN10A	G-GA36-090309						TOT OK															

PN10:000005

Checked By AV Date 9/9/09



Analytical Resources,
Incorporated
Analytical Chemists and
Consultants

Cooler Receipt Form

ARI Client: Golder

COC No(s): _____ (NA)

Assigned ARI Job No: PN10

Project Name: Avery Landing

Delivered by: Fed-Ex UPS Courier Hand Delivered Other: _____

Tracking No: 8697 3361 4340 NA

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of to cooler? YES NO

Were custody papers included with the cooler? YES NO

Were custody papers properly filled out (ink, signed, etc.) YES NO

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry) 3.4

If cooler temperature is out of compliance fill out form 00070F

Temp Gun ID#: 101886

Cooler Accepted by: AV Date: 9/4/09 Time: 9 55

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler? YES NO

What kind of packing material was used? ... Bubble Wrap Wet Ice Gel Packs Baggies Foam Block Paper Other: _____

Was sufficient ice used (if appropriate)? NA YES NO

Were all bottles sealed in individual plastic bags? YES NO

Did all bottles arrive in good condition (unbroken)? YES NO

Were all bottle labels complete and legible? YES NO

Did the number of containers listed on COC match with the number of containers received? YES NO

Did all bottle labels and tags agree with custody papers? YES NO

Were all bottles used correct for the requested analyses? YES NO

Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs)... NA YES NO

Were all VOC vials free of air bubbles? NA YES NO

Was sufficient amount of sample sent in each bottle? YES NO

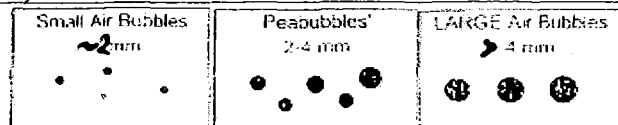
Samples Logged by: AV Date: 9/4/09 Time: 1046

**** Notify Project Manager of discrepancies or concerns ****

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:

By: _____ Date: _____



Small → "sm"
Peabubbles → "pb"
Large → "lg"
Headspace → "hs"

PRESERVATION VERIFICATION 09/04/09

Page 1 of 1



ARI Job No: PN14

PC: Kelly

VTSR: 09/04/09

Inquiry Number: NONE

Analysis Requested: 09/04/09

Contact: Morell, Douglas

Client: Golder Associates

Logged by: AV

Sample Set Used: Yes-481

Validatable Package: No

Deliverables:

Project #: 073-93312

Project: Avery Landing

Sample Site:

SDG No:

Analytical Protocol: In-house

LOGNUM		CN	WAD	NH3	COD	FOG	MET	PHEN	PHOS	TKN	NO23	TOC	S2	AK102	Fe2+	DMET DOC		ADJUSTED	LOT	AMOUNT		
ARI ID	CLIENT ID	>12	>12	<2	<2	<2	<2	<2	<2	<2	<2	<2	>9	<2	<2	FLT	FLT	PARAMETER	TO	NUMBER	ADDED	DATE/BY
09-20749 PN14A	G-GA3S-090309						TOT OK															

PN14: 000007

Checked By

AV

Date

9/21/09

SAMPLE CHAIN OF CUSTODY

Send Report To Doug Morell & Kirsie Langley
Company Golder Associates
Address 18300 NE Union Hill Road
City, State, ZIP Redmond, WA 98052
Phone # 425-883-0777 Fax # _____

SAMPLERS (signature)

PROJECT NAME/NO.

Avery Landine
073-93312-0

PO #

REMARKS please use project specific reporting limits. VOC's & SVOC's must be Target Compound List. Metals must be

Page # 1 of 1

TURNAROUND TIME

~~X~~ Standard (2 Weeks)

☐ RUSH

Rush charges authorized by:

SAMPLE DISPOSAL

☒ Dispose after 30 days

☐ Return samples☐ Will call with instructions

Sample ID	Lab ID	Date	Time	Sample Type	# of containers	ANALYSES REQUESTED										Notes	
						NWPH-Diesel ext TPH-Gasoline	BTEX by 80219	TCL VOC (82100 P) VOCs by 82100 (L)	TCL SVOC (82100 P) SVOCs by 82100 (L)	THPS	PCB (8082A) low level	PAH (8270 SIM)	TAL metals (Total)	TAL metals (dissolved)			
G-RS3SSW-090609		9/6/09	1145	W	7	X					X	X	X				How dissolved metals bottle pending analysis.
G-RS5SED-0-090809		9/8/09	840	S	5	X		X	X		X	X	X				

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282
Fax (206) 283-5044

FORMS\COC\COC.DOC

Samples received at 4.0 °C



Analytical Resources,
Incorporated
Analytical Chemists and
Consultants

Cooler Receipt Form

ARI Client:

Golder Associates

COC No(s):

(NA)

Assigned ARI Job No:

PN53

Project Name:

Avery landing

Delivered by: Fed-Ex UPS Courier Hand Delivered Other:

Tracking No:

839682281475

NA

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of to cooler? YES NO

Were custody papers included with the cooler? YES NO

Were custody papers properly filled out (ink, signed, etc.) YES NO

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry) 4.0

If cooler temperature is out of compliance fill out form 00070F

Temp Gun ID#: 101886

Cooler Accepted by:

111

Date:

9/10/09

Time:

9:50

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler? YES (NO)

What kind of packing material was used? ... Bubble Wrap Wet Ice Gel Packs Baggies Foam Block Paper Other:

Was sufficient ice used (if appropriate)? NA YES NO

Were all bottles sealed in individual plastic bags? YES NO

Did all bottles arrive in good condition (unbroken)? YES NO

Were all bottle labels complete and legible? YES NO

Did the number of containers listed on COC match with the number of containers received? YES NO

Did all bottle labels and tags agree with custody papers? YES NO

Were all bottles used correct for the requested analyses? YES NO

Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs)... NA YES NO

Were all VOC vials free of air bubbles? (NA) YES NO

Was sufficient amount of sample sent in each bottle? YES NO

Samples Logged by:

AV

Date:

9/10/09

Time:

11:43

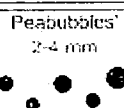
**** Notify Project Manager of discrepancies or concerns ****

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:

By:

Date:



Small → "sm"

Peabubbles → "pb"

Large → "lg"

Headspace → "hs"

PRESERVATION VERIFICATION 09/10/09

Page 1 of 1



ARI Job No: PN53

PC: Kelly

VTSR: 09/10/09

Inquiry Number: NONE

Analysis Requested: 09/10/09

Contact: Morell, Douglas

Client: Golder Associates

Logged by: AV

Sample Set Used: Yes-481

Validatable Package: Lv4

Deliverables:

Project #: 073-93312-03

Project: Avery Landing

Sample Site:

SDG No:

Analytical Protocol: In-house

LOGNUM		CN	WAD	NH3	COD	FOG	MET	PHEN	PHOS	TKN	NO23	TOC	S2	AK102	Fe2+	DMET DOC			ADJUSTED		LOT	AMOUNT	
ARI ID	CLIENT ID	>12	>12	<2	<2	<2	<2	<2	<2	<2	<2	<2	>9	<2	<2	FLT	FLT	PARAMETER	TO	NUMBER	ADDED	DATE/BY	
09-20948 PN53A	G-RS3SSW-090609						TOT OK																

PN10:00010

Checked By

A handwritten signature, likely 'AV', written in black ink.

Date

9/10/09



Analytical Resources,
Incorporated
Analytical Chemists and
Consultants

Cooler Receipt Form

ARI Client:

Golder Associates

COC No(s):

NA

Assigned ARI Job No:

PN54

Project Name:

Avery landing

Delivered by: Fed-Ex UPS Courier Hand Delivered Other:

Tracking No:

839682281475

NA

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of to cooler?

YES

NO

Were custody papers included with the cooler?

YES

NO

Were custody papers properly filled out (ink, signed, etc.)

YES

NO

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry)

4.0

If cooler temperature is out of compliance fill out form 00070F

Temp Gun ID#:

101886

Cooler Accepted by:

M17

Date:

9/10/09

Time:

9:50

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler?

YES

NO

What kind of packing material was used? ... Bubble Wrap Wet Ice Gel Packs Baggies Foam Block Paper Other:

Was sufficient ice used (if appropriate)?

NA

YES

NO

Were all bottles sealed in individual plastic bags?

YES

NO

Did all bottles arrive in good condition (unbroken)?

YES

NO

Were all bottle labels complete and legible?

YES

NO

Did the number of containers listed on COC match with the number of containers received?

YES

NO

Did all bottle labels and tags agree with custody papers?

YES

NO

Were all bottles used correct for the requested analyses?

YES

NO

Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs)...

NA

YES

NO

Were all VOC vials free of air bubbles?

NA

YES

NO

Was sufficient amount of sample sent in each bottle?

YES

NO

Samples Logged by:

AV

Date:

9/10/09

Time:

11:47

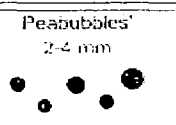
**** Notify Project Manager of discrepancies or concerns ****

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:

By:

Date:



Small → "sm"

Peabubbles → "pb"

Large → "lg"

Headspace → "hs"

PRESERVATION VERIFICATION 09/10/09

Page 1 of 1



ARI Job No: **PN54**

PC: Kelly

VTSR: 09/10/09

Inquiry Number: NONE

Analysis Requested: 09/10/09

Contact: Morell, Douglas

Client: Golder Associates

Logged by: AV

Sample Set Used: Yes 481

Validatable Package: Lv4

Deliverables:

yes
C/P
Package

Project #: 073-93312-03

Project: Avery Landing

Sample Site:

SDG No:

Analytical Protocol: In-house

LOGNUM ARI ID	CLIENT ID	CN >12	WAD >12	NH3 <2	COD <2	FOG <2	MET <2	PHEN <2	PHOS <2	TKN <2	NO23 <2	TOC <2	S2 >9	AK102 <2	Fe2+ <2	DMET DOC FLT FLT	PARAMETER	ADJUSTED TO	LOT NUMBER	AMOUNT ADDED	DATE/BY
09-20950 PN54A	G-RS3SSW-090609						OK														

PN10:00012

Checked By SV Date 9/10/09

Case Narrative

prepared
for

Golder Associates

Project: Avery Landing, 073-93312-03

ARI JOB NO: PN10, PN14, PN53, PN54

prepared
by

Analytical Resources, Inc.



Case Narrative

Client: Golder
Project: Avery Landing, 073-93312
ARI Job No.: PN10, PN14, PN53, & PN54
Date: September 22, 2009

Sample Receipt:

Analytical Resources Inc, (ARI) accepted one water sample on September 4, 2009 under ARI jobs PN10 and PN14. The sample was received with a cooler temperature of 3.4°C. For further details regarding sample receipt, please refer to the Cooler Receipt Form.

Analytical Resources Inc, (ARI) accepted one water sample on September 10, 2009 under ARI jobs PN53 and PN54. The sample was received with a cooler temperature of 4.0°C. For further details regarding sample receipt, please refer to the Cooler Receipt Form.

The samples were analyzed for SIM PAH, Low-Level PCBs, NWTPH-Dx, and Total Metals, as requested.

SIM PAHs by SW8270:

The samples were extracted on 9/7/09 and 9/10/09 and the extracts were analyzed on 9/9/09 and 9/15/09, within the method recommended holding times.

Initial calibration (s): All analytes were within method acceptance criteria.

Continuing calibration (s): The continuing calibration of Benzo(g,h,i)perylene was outside the control limits high for the 9/9/09 analysis. All detected results for this compound on the date of analysis have been flagged with a "Q" qualifier. No further corrective action was required.

Internal Standard (s): All internal standard areas were within control limits.

Method Blank (s): The method blanks were free of contamination

Surrogate(s): All surrogate percent recoveries were within control limits.

Samples: There were no anomalies associated with this analysis.

LCS/LCSD (s): All LCS and LCSD percent recoveries were within control limits.

Low-Level PCBs by SW8082:

The samples were extracted on 9/8/09 and 9/11/09 and the extracts were analyzed on 9/11/09 and 9/14/09, within the method recommended holding times.



Initial calibration (s): All analytes were within method acceptance criteria.

Continuing calibration (s): All analytes were within method acceptance criteria.

Internal Standard (s): All internal standard areas were within control limits.

Method Blank (s): The method blanks were free of contamination

Surrogate(s): All surrogate percent recoveries were within control limits.

Samples: There were no anomalies associated with this analysis.

LCS/LCSD (s): All LCS and LCSD percent recoveries were within control limits.

NWTPH-Dx

The samples were extracted on 9/7/09 and 9/10/09 and the extracts were analyzed on 9/7/09 and 9/11/09, within the method recommended holding times.

Initial calibration (s): All analytes were within method acceptance criteria.

Continuing calibration (s): All analytes were within method acceptance criteria.

Method Blank (s): The method blanks were free of contamination

Surrogate(s): All surrogate percent recoveries were within control limits.

Samples: Please note that both samples were received in one liter amber glass bottles and only five-hundred milliliters is required for extraction. As noted by the extraction analyst, five-hundred milliliters was measured out for both samples and the method recommended bottle rinse was not performed for either sample.

LCS/LCSD (s): All LCS and LCSD percent recoveries were within control limits.

Total Metals Analysis By SW6010 and 200.8:

The samples were digested between 9/4/09 and 9/11/09 and analyzed between 9/10/09 and 9/18/09, within the method recommended holding time.

Initial calibration (s): All analytes were within method acceptance criteria.

Continuing calibration (s): All analytes were within method acceptance criteria.

Method Blank (s): The method blanks were free of contamination

Samples: There were no anomalies associated with the analyses.

LCS (s): All LCS percent recoveries were within control limits.



Matrix Spike/ Sample Duplicate/ RPDs(s): All matrix spike percent recoveries and duplicate RPDs were within control limits.

Low-Level Mercury by SW7470A:

The samples were digested between 9/4/09 and 9/11/09 and analyzed between 9/8/09 and 9/11/09, within the method recommended holding time.

Initial calibration (s): All analytes were within method acceptance criteria.

Continuing calibration (s): All analytes were within method acceptance criteria.

Method Blank (s): The method blanks were free of contamination

Samples: There were no anomalies associated with the analyses.

LCS (s): All LCS percent recoveries were within control limits.

Matrix Spike/ Sample Duplicate/ RPDs(s): The matrix spike percent recovery and duplicate RPD was within control limits.



Data Reporting Qualifiers

Effective 7/10/2009

Inorganic Data

- U Indicates that the target analyte was not detected at the reported concentration
- * Duplicate RPD is not within established control limits
- B Reported value is less than the CRDL but \geq the Reporting Limit
- N Matrix Spike recovery not within established control limits
- NA Not Applicable, analyte not spiked
- H The natural concentration of the spiked element is so much greater than the concentration spiked that an accurate determination of spike recovery is not possible
- L Analyte concentration is ≤ 5 times the Reporting Limit and the replicate control limit defaults to ± 1 RL instead of the normal 20% RPD

Organic Data

- U Indicates that the target analyte was not detected at the reported concentration
- * Flagged value is not within established control limits
- B Analyte detected in an associated Method Blank at a concentration greater than one-half of ARI's Reporting Limit or 5% of the regulatory limit or 5% of the analyte concentration in the sample.
- J Estimated concentration when the value is less than ARI's established reporting limits
- D The spiked compound was not detected due to sample extract dilution
- E Estimated concentration calculated for an analyte response above the valid instrument calibration range. A dilution is required to obtain an accurate quantification of the analyte.
- Q Indicates a detected analyte with an initial or continuing calibration that does not meet established acceptance criteria ($<20\%$ RSD, $<20\%$ Drift or minimum RRF).
- S Indicates an analyte response that has saturated the detector. The calculated concentration is not valid; a dilution is required to obtain valid quantification of the analyte



- NA The flagged analyte was not analyzed for
- NR Spiked compound recovery is not reported due to chromatographic interference
- NS The flagged analyte was not spiked into the sample
- M Estimated value for an analyte detected and confirmed by an analyst but with low spectral match parameters. This flag is used only for GC-MS analyses
- M2 The sample contains PCB congeners that do not match any standard Aroclor pattern. The PCBs are identified and quantified as the Aroclor whose pattern most closely matches that of the sample. The reported value is an estimate.
- N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification"
- Y The analyte is not detected at or above the reported concentration. The reporting limit is raised due to chromatographic interference. The Y flag is equivalent to the U flag with a raised reporting limit.
- C The analyte was positively identified on only one of two chromatographic columns. Chromatographic interference prevented a positive identification on the second column
- P The analyte was detected on both chromatographic columns but the quantified values differ by $\geq 40\%$ RPD with no obvious chromatographic interference

Geotechnical Data

- A The total of all fines fractions. This flag is used to report total fines when only sieve analysis is requested and balances total grain size with sample weight.
- F Samples were frozen prior to particle size determination
- SM Sample matrix was not appropriate for the requested analysis. This normally refers to samples contaminated with an organic product that interferes with the sieving process and/or moisture content, porosity and saturation calculations
- SS Sample did not contain the proportion of "fines" required to perform the pipette portion of the grain size analysis
- W Weight of sample in some pipette aliquots was below the level required for accurate weighting

LCS SOLUTIONS

06/16/2009

LABE	SOLN ID	TEST	CONC. UG/ML	SOLVENT	EXP.
1	1612-4	PCB	20	ACETONE	06/08/10
2#	1472-3	BCOC PEST	10	ACETONE	NA
3	1579-3	PEST	02/04/20	ACETONE	09/23/09
4	1594-2	LOW PEST	0.2/0.4/2	ACETONE	09/23/09
5	1580-2	EPH	1500	MECL2	01/29/10
6	1559-2	PCP	12.5/125	ACETONE	11/05/09
7	1613-4	ABN	100	ACETONE	02/01/10
8	1566-1	TBT	2.5	MECL2	12/04/09
9	1567-3	PORE TBT	.125/.25	MECL2	12/04/09
10	1596-2	ABN ACID	100/200	MEOH	10/21/09
11	1591-1	TPHD	15000	ACETONE	03/26/10
12	1597-3	ABN BASE	200	ACETONE	02/05/10
13	1613-1	LOW PCB	2	ACETONE	06/08/10
14*	1547-1	LOW ABN ACID	10/20	MEOH	04/10/10
15	1591-3	SIM PNA	15/75	MEOH	08/28/09
16	1602-3	DIOXANE	100	MEOH	03/20/10
17#	1516-2	1248 PCB	20	ACETONE	NA
18	1591-4	LOW SIM PNA	1.5	ACETONE	08/28/09
19	1574-4	AK103	7500	MECL2	12/02/09
20	1572-2	PNA	100	ACETONE	12/26/09
21	1593-3	SKY/BHT	100	MEOH	03/31/10
22	1603-1	HERB	12.5/12500	MEOH	08/18/09
23*	1505-1	LW ABN BASE	20	MEOH	03/20/10
24	1613-2	LOW ABN	10	ACETONE	02/28/10
25#	1481-1	DIPHENYL	100	MEOH	NA
26*	1545-2	OP-PEST	25	MEOH	02/16/10
27#	1495-1	STEROLS	200	MEOH	NA
28	1595-1	ADD. PEST	4	ACETONE	09/15/09
29#	1496-3	DECANES	100	MEOH	NA
30	1604-2	EDB/DBCP	0.1	HEXANE	05/20/10
31	1596-1	TERPINEOL	100	MEOH	04/03/10

LCS SOLUTIONS

06/16/2009

32	1598-1	GUAIACOL	50-200	ACETONE	04/30/10
33		NOT IN USE			
34	1530-2	CONGENERS	1	ACETONE	07/23/09
35	1601-2	ALKYL PNA A	10	MEOH	04/03/10
36	1601-3	ALKYL PNA B	10	MEOH	05/13/10
50	1571-1	FULL RESIN	250	ACETONE	06/10/09
51	1611-3	DDTS	2.5	ACETONE	06/04/10
52#	1613-5	1232 PCB	20	ACETONE	06/16/10
	*=REVERIFIED SOLUTION				
	#=PROJECT SPECIFIC SOLUTION				

SURR SOLUTIONS

06/16/2009

LABEL	SOLN ID	TEST	CONC. UG/ML	SOLVENT	EXP.
A	1584-5	ABN	100/150	MEOH	02/18/10
B	1572-1	SIM PNA	15/75	MEOH	08/28/09
C*	1559-1	SIM ABN	25/37.5	MEOH	03/13/10
D	1612-3	LOW PCB	0.2	ACETONE	05/29/10
E*	1478-1	HERB	62.5	MEOH	09/21/09
F	1574-3	PCP	12.5	ACETONE	01/06/10
G	1602-2	1,4DIOXANE	100	MEOH	03/20/10
H	1594-1	OP-PEST	25	MEOH	04/01/10
I	1559-4	LOW S. PNA	1.5	MEOH	08/28/09
J	1566-5	TBT-PORE	0.125	MECL2	12/04/09
K	1612-1	MED PCB	20	ACETONE	05/29/10
L	1584-4	TBT	2.5	MECL2	12/04/09
M	1578-1	EPH	1500	MECL2	12/09/09
N	1612-2	PCB	2	ACETONE	05/29/10
O	1606-2	TPH	450	MECL2	01/07/10
P	1598-2	HCID	2250	MECL2	01/07/10
Q	1604-5	EDB	2	HEXANE	05/22/10
R	1521-4	RESIN ACID	250	ACETONE	06/11/09
S	1568-5	PBDE	.25	MEOH	12/11/09
T	1601-1	ALKYL PNA	10	MEOH	11/26/09
U	*=REVERIFIED SOLUTION				
V					
W					
X					
Y					
Z					

Data Summary Package

prepared
for

Golder Associates

Project: Avery Landing, 073-93312-03

ARI JOB NO: PN10, PN14, PN53, PN54

prepared
by

Analytical Resources, Inc.

SIM SEMIVOLATILE ANALYSIS

ORGANICS ANALYSIS DATA SHEET

PNAs by Low Level SW8270D-SIM GC/MS

Page 1 of 1


Sample ID: G-GA3S-090309

SAMPLE

Lab Sample ID: PN10A

LIMS ID: 09-20720

Matrix: Water

Data Release Authorized: 

Reported: 09/10/09

QC Report No: PN10-Golder Associates

Project: Avery Landing

Event: 073-93312

Date Sampled: 09/03/09

Date Received: 09/04/09

Date Extracted: 09/07/09

Date Analyzed: 09/09/09 21:02

Instrument/Analyst: NT2/PK

Sample Amount: 500 mL

Final Extract Volume: 0.5 mL

Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
91-20-3	Naphthalene	0.010	0.045
91-57-6	2-Methylnaphthalene	0.010	0.015
90-12-0	1-Methylnaphthalene	0.010	0.018
208-96-8	Acenaphthylene	0.010	< 0.010 U
83-32-9	Acenaphthene	0.010	0.016
86-73-7	Fluorene	0.010	< 0.010 U
85-01-8	Phenanthrene	0.010	< 0.010 U
120-12-7	Anthracene	0.010	< 0.010 U
206-44-0	Fluoranthene	0.010	< 0.010 U
129-00-0	Pyrene	0.010	< 0.010 U
56-55-3	Benzo(a)anthracene	0.010	< 0.010 U
218-01-9	Chrysene	0.010	< 0.010 U
205-99-2	Benzo(b)fluoranthene	0.010	< 0.010 U
207-08-9	Benzo(k)fluoranthene	0.010	< 0.010 U
50-32-8	Benzo(a)pyrene	0.010	< 0.010 U
193-39-5	Indeno(1,2,3-cd)pyrene	0.010	< 0.010 U
53-70-3	Dibenz(a,h)anthracene	0.010	< 0.010 U
191-24-2	Benzo(g,h,i)perylene	0.010	< 0.010 U
132-64-9	Dibenzofuran	0.010	< 0.010 U

Reported in µg/L (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene	61.3%
d14-Dibenzo(a,h)anthracene	82.0%

SIM SW8270 SURROGATE RECOVERY SUMMARY

Matrix: Water

QC Report No: PN10-Golder Associates
Project: Avery Landing
073-93312

Client ID	MNP	DBA	TOT OUT
MB-090709	70.7%	77.3%	0
LCS-090709	67.7%	86.3%	0
LCSD-090709	55.7%	81.3%	0
G-GA3S-090309	61.3%	82.0%	0

LCS/MB LIMITS QC LIMITS

(MNP) = d10-2-Methylnaphthalene (42-100) (31-109)
(DBA) = d14-Dibenzo(a,h)anthracene (40-125) (10-133)

Prep Method: SW3510C
Log Number Range: 09-20720 to 09-20720

ORGANICS ANALYSIS DATA SHEET

PNAs by Low Level SW8270D-SIM GC/MS

Page 1 of 1

Sample ID: LCS-090709

LAB CONTROL SAMPLE

Lab Sample ID: LCS-090709

LIMS ID: 09-20720

Matrix: Water

Data Release Authorized: *[Signature]*

Reported: 09/10/09

QC Report No: PN10-Golder Associates

Project: Avery Landing

Event: 073-93312

Date Sampled: NA

Date Received: NA

Date Extracted LCS/LCSD: 09/07/09

Sample Amount LCS: 500 mL

LCSD: 500 mL

Date Analyzed LCS: 09/09/09 15:46

Final Extract Volume LCS: 0.50 mL

LCSD: 09/09/09 16:11

LCSD: 0.50 mL

Instrument/Analyst LCS: NT2/PK

Dilution Factor LCS: 1.00

LCSD: NT2/PK

LCSD: 1.00

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Naphthalene	0.210	0.300	70.0%	0.150	0.300	50.0%	33.3%
2-Methylnaphthalene	0.205	0.300	68.3%	0.154	0.300	51.3%	28.4%
1-Methylnaphthalene	0.196	0.300	65.3%	0.162	0.300	54.0%	19.0%
Acenaphthylene	0.196	0.300	65.3%	0.165	0.300	55.0%	17.2%
Acenaphthene	0.210	0.300	70.0%	0.176	0.300	58.7%	17.6%
Fluorene	0.223	0.300	74.3%	0.198	0.300	66.0%	11.9%
Phenanthrene	0.204	0.300	68.0%	0.197	0.300	65.7%	3.5%
Anthracene	0.202	0.300	67.3%	0.191	0.300	63.7%	5.6%
Fluoranthene	0.223	0.300	74.3%	0.220	0.300	73.3%	1.4%
Pyrene	0.222	0.300	74.0%	0.221	0.300	73.7%	0.5%
Benzo(a)anthracene	0.248	0.300	82.7%	0.235	0.300	78.3%	5.4%
Chrysene	0.244	0.300	81.3%	0.228	0.300	76.0%	6.8%
Benzo(b)fluoranthene	0.255	0.300	85.0%	0.234	0.300	78.0%	8.6%
Benzo(k)fluoranthene	0.210	0.300	70.0%	0.205	0.300	68.3%	2.4%
Benzo(a)pyrene	0.216	0.300	72.0%	0.210	0.300	70.0%	2.8%
Indeno(1,2,3-cd)pyrene	0.235	0.300	78.3%	0.221	0.300	73.7%	6.1%
Dibenz(a,h)anthracene	0.251	0.300	83.7%	0.235	0.300	78.3%	6.6%
Benzo(g,h,i)perylene	0.255 Q	0.300	85.0%	0.237 Q	0.300	79.0%	7.3%
Dibenzofuran	0.203	0.300	67.7%	0.181	0.300	60.3%	11.5%

Reported in µg/L (ppb)

RPD calculated using sample concentrations per SW846.

SIM Semivolatile Surrogate Recovery

	LCS	LCSD
d10-2-Methylnaphthalene	67.7%	55.7%
d14-Dibenzo(a,h)anthracene	86.3%	81.3%

4B
SEMIVOLATILE METHOD BLANK SUMMARY

BLANK NO.

PN10MBW1

Lab Name: ANALYTICAL RESOURCES, INC

Client: GOLDER ASSOCIATES

ARI Job No: PN10

Project: AVERY LANDING

Lab File ID: 090910

Date Extracted: 09/07/09

Instrument ID: NT2

Date Analyzed: 09/09/09

Matrix: LIQUID

Time Analyzed: 1522

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	=====	=====	=====	=====
01	PN10LCSW1	PN10LCSW1	090911	09/09/09
02	PN10LCSDW1	PN10LCSDW1	090912	09/09/09
03	G-GA3S-090309	PN10A	090924	09/09/09
04				
05				
06				
07				
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COMMENTS:

ORGANICS ANALYSIS DATA SHEET

PNAs by Low Level SW8270D-SIM GC/MS

Page 1 of 1


Sample ID: MB-090709

METHOD BLANK

Lab Sample ID: MB-090709

LIMS ID: 09-20720

Matrix: Water

Data Release Authorized: 

Reported: 09/10/09

QC Report No: PN10-Golder Associates

Project: Avery Landing

Event: 073-93312

Date Sampled: NA

Date Received: NA

Date Extracted: 09/07/09

Date Analyzed: 09/09/09 15:22

Instrument/Analyst: NT2/PK

Sample Amount: 500 mL

Final Extract Volume: 0.5 mL

Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
91-20-3	Naphthalene	0.010	< 0.010 U
91-57-6	2-Methylnaphthalene	0.010	< 0.010 U
90-12-0	1-Methylnaphthalene	0.010	< 0.010 U
208-96-8	Acenaphthylene	0.010	< 0.010 U
83-32-9	Acenaphthene	0.010	< 0.010 U
86-73-7	Fluorene	0.010	< 0.010 U
85-01-8	Phenanthrene	0.010	< 0.010 U
120-12-7	Anthracene	0.010	< 0.010 U
206-44-0	Fluoranthene	0.010	< 0.010 U
129-00-0	Pyrene	0.010	< 0.010 U
56-55-3	Benzo(a)anthracene	0.010	< 0.010 U
218-01-9	Chrysene	0.010	< 0.010 U
205-99-2	Benzo(b)fluoranthene	0.010	< 0.010 U
207-08-9	Benzo(k)fluoranthene	0.010	< 0.010 U
50-32-8	Benzo(a)pyrene	0.010	< 0.010 U
193-39-5	Indeno(1,2,3-cd)pyrene	0.010	< 0.010 U
53-70-3	Dibenz(a,h)anthracene	0.010	< 0.010 U
191-24-2	Benzo(g,h,i)perylene	0.010	< 0.010 U
132-64-9	Dibenzofuran	0.010	< 0.010 U

Reported in µg/L (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene	70.7%
d14-Dibenzo(a,h)anthracene	77.3%

ORGANICS ANALYSIS DATA SHEET

PNAs by Low Level SW8270D-SIM GC/MS

Page 1 of 1

Sample ID: G-RS3SSW-090609

SAMPLE

Lab Sample ID: PN53A

LIMS ID: 09-20948

Matrix: Water

Data Release Authorized: VTS

Reported: 09/16/09

QC Report No: PN53-Golder Associates

Project: Avery Landing

Event: 073-93312-03

Date Sampled: 09/06/09

Date Received: 09/10/09

Date Extracted: 09/10/09

Date Analyzed: 09/15/09 16:19

Instrument/Analyst: NT2/PK

Sample Amount: 500 mL

Final Extract Volume: 0.5 mL

Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
91-20-3	Naphthalene	0.010	< 0.010 U
91-57-6	2-Methylnaphthalene	0.010	< 0.010 U
90-12-0	1-Methylnaphthalene	0.010	< 0.010 U
208-96-8	Acenaphthylene	0.010	< 0.010 U
83-32-9	Acenaphthene	0.010	< 0.010 U
86-73-7	Fluorene	0.010	< 0.010 U
85-01-8	Phenanthrene	0.010	< 0.010 U
120-12-7	Anthracene	0.010	< 0.010 U
206-44-0	Fluoranthene	0.010	< 0.010 U
129-00-0	Pyrene	0.010	< 0.010 U
56-55-3	Benzo(a)anthracene	0.010	< 0.010 U
218-01-9	Chrysene	0.010	< 0.010 U
205-99-2	Benzo(b)fluoranthene	0.010	< 0.010 U
207-08-9	Benzo(k)fluoranthene	0.010	< 0.010 U
50-32-8	Benzo(a)pyrene	0.010	< 0.010 U
193-39-5	Indeno(1,2,3-cd)pyrene	0.010	< 0.010 U
53-70-3	Dibenz(a,h)anthracene	0.010	< 0.010 U
191-24-2	Benzo(g,h,i)perylene	0.010	< 0.010 U
132-64-9	Dibenzofuran	0.010	< 0.010 U

Reported in µg/L (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene 64.3%

d14-Dibenzo(a,h)anthracene 61.7%

SIM SW8270 SURROGATE RECOVERY SUMMARY

Matrix: Water

QC Report No: PN53-Golder Associates
Project: Avery Landing
073-93312-03

<u>Client ID</u>	<u>MNP</u>	<u>DBA</u>	<u>TOT OUT</u>
MB-091009	63.3%	67.0%	0
LCS-091009	63.3%	70.7%	0
LCSD-091009	64.3%	64.0%	0
G-RS3SSW-090609	64.3%	61.7%	0

	<u>LCS/MB LIMITS</u>	<u>QC LIMITS</u>
(MNP) = d10-2-Methylnaphthalene	(42-100)	(31-109)
(DBA) = d14-Dibenzo(a,h)anthracene	(40-125)	(10-133)

Prep Method: SW3510C
Log Number Range: 09-20948 to 09-20948

Sample ID: LCS-091009
LAB CONTROL SAMPLE

Lab Sample ID: LCS-091009
LIMS ID: 09-20948
Matrix: Water
Data Release Authorized: VTB
Reported: 09/16/09

QC Report No: PN53-Golder Associates
Project: Avery Landing
Event: 073-93312-03
Date Sampled: NA
Date Received: NA

Date Extracted LCS/LCSD: 09/10/09

Sample Amount LCS: 500 mL

Date Analyzed LCS: 09/15/09 15:31
LCSD: 09/15/09 15:55

Final Extract Volume LCS: 0.50 mL
LCSD: 0.50 mL

Instrument/Analyst LCS: NT2/PK
LCSD: NT2/PK

Dilution Factor LCS: 1.00
LCSD: 1.00

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Naphthalene	0.202	0.300	67.3%	0.209	0.300	69.7%	3.4%
2-Methylnaphthalene	0.200	0.300	66.7%	0.196	0.300	65.3%	2.0%
1-Methylnaphthalene	0.192	0.300	64.0%	0.197	0.300	65.7%	2.6%
Acenaphthylene	0.189	0.300	63.0%	0.191	0.300	63.7%	1.1%
Acenaphthene	0.190	0.300	63.3%	0.195	0.300	65.0%	2.6%
Fluorene	0.198	0.300	66.0%	0.204	0.300	68.0%	3.0%
Phenanthrene	0.200	0.300	66.7%	0.223	0.300	74.3%	10.9%
Anthracene	0.204	0.300	68.0%	0.208	0.300	69.3%	1.9%
Fluoranthene	0.213	0.300	71.0%	0.212	0.300	70.7%	0.5%
Pyrene	0.216	0.300	72.0%	0.220	0.300	73.3%	1.8%
Benzo(a)anthracene	0.222	0.300	74.0%	0.221	0.300	73.7%	0.5%
Chrysene	0.213	0.300	71.0%	0.213	0.300	71.0%	0.0%
Benzo(b)fluoranthene	0.240	0.300	80.0%	0.229	0.300	76.3%	4.7%
Benzo(k)fluoranthene	0.195	0.300	65.0%	0.188	0.300	62.7%	3.7%
Benzo(a)pyrene	0.207	0.300	69.0%	0.197	0.300	65.7%	5.0%
Indeno(1,2,3-cd)pyrene	0.198	0.300	66.0%	0.174	0.300	58.0%	12.9%
Dibenz(a,h)anthracene	0.202	0.300	67.3%	0.185	0.300	61.7%	8.8%
Benzo(g,h,i)perylene	0.197	0.300	65.7%	0.167	0.300	55.7%	16.5%
Dibenzofuran	0.197	0.300	65.7%	0.204	0.300	68.0%	3.5%

Reported in $\mu\text{g/L}$ (ppb)

RPD calculated using sample concentrations per SW846.

SIM Semivolatile Surrogate Recovery

	LCS	LCSD
d10-2-Methylnaphthalene	63.3%	64.3%
d14-Dibenzo(a,h)anthracene	70.7%	64.0%

4B
SEMIVOLATILE METHOD BLANK SUMMARY

BLANK NO.

PN53MBW1

Lab Name: ANALYTICAL RESOURCES, INC

Client: GOLDER ASSOCIATES

ARI Job No: PN53

Project: AVERY LANDING

Lab File ID: 091501

Date Extracted: 09/10/09

Instrument ID: NT2

Date Analyzed: 09/15/09

Matrix: LIQUID

Time Analyzed: 1506

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	=====	=====	=====	=====
01	PN53LCSW1	PN53LCSW1	091502	09/15/09
02	PN53LCSDW1	PN53LCSDW1	091503	09/15/09
03	G-RS3SSW-090609	PN53A	091504	09/15/09
04				
05				
06				
07				
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COMMENTS:

Sample ID: MB-091009
METHOD BLANK

Lab Sample ID: MB-091009
LIMS ID: 09-20948
Matrix: Water
Data Release Authorized: VTS
Reported: 09/16/09

QC Report No: PN53-Golder Associates
Project: Avery Landing
Event: 073-93312-03
Date Sampled: NA
Date Received: NA

Date Extracted: 09/10/09
Date Analyzed: 09/15/09 15:06
Instrument/Analyst: NT2/PK

Sample Amount: 500 mL
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
91-20-3	Naphthalene	0.010	< 0.010 U
91-57-6	2-Methylnaphthalene	0.010	< 0.010 U
90-12-0	1-Methylnaphthalene	0.010	< 0.010 U
208-96-8	Acenaphthylene	0.010	< 0.010 U
83-32-9	Acenaphthene	0.010	< 0.010 U
86-73-7	Fluorene	0.010	< 0.010 U
85-01-8	Phenanthrene	0.010	< 0.010 U
120-12-7	Anthracene	0.010	< 0.010 U
206-44-0	Fluoranthene	0.010	< 0.010 U
129-00-0	Pyrene	0.010	< 0.010 U
56-55-3	Benzo(a)anthracene	0.010	< 0.010 U
218-01-9	Chrysene	0.010	< 0.010 U
205-99-2	Benzo(b)fluoranthene	0.010	< 0.010 U
207-08-9	Benzo(k)fluoranthene	0.010	< 0.010 U
50-32-8	Benzo(a)pyrene	0.010	< 0.010 U
193-39-5	Indeno(1,2,3-cd)pyrene	0.010	< 0.010 U
53-70-3	Dibenz(a,h)anthracene	0.010	< 0.010 U
191-24-2	Benzo(g,h,i)perylene	0.010	< 0.010 U
132-64-9	Dibenzofuran	0.010	< 0.010 U

Reported in $\mu\text{g/L}$ (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene 63.3%
d14-Dibenzo(a,h)anthracene 67.0%

PCB ANALYSIS

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1Sample ID: G-GA3S-090309
SAMPLE

Lab Sample ID: PN10A

LIMS ID: 09-20720

Matrix: Water

Data Release Authorized: 

Reported: 09/15/09

QC Report No: PN10-Golder Associates

Project: Avery Landing

073-93312

Date Sampled: 09/03/09

Date Received: 09/04/09

Date Extracted: 09/08/09

Date Analyzed: 09/11/09 21:12

Instrument/Analyst: ECD5/JGR

GPC Cleanup: No

Sulfur Cleanup: Yes

Sample Amount: 1000 mL

Final Extract Volume: 0.50 mL

Dilution Factor: 1.00

Silica Gel: No

Acid Cleanup: Yes

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	0.010	< 0.010 U
53469-21-9	Aroclor 1242	0.010	< 0.010 U
12672-29-6	Aroclor 1248	0.010	< 0.010 U
11097-69-1	Aroclor 1254	0.010	< 0.010 U
11096-82-5	Aroclor 1260	0.010	< 0.010 U
11104-28-2	Aroclor 1221	0.010	< 0.010 U
11141-16-5	Aroclor 1232	0.010	< 0.010 U
37324-23-5	Aroclor 1262	0.010	< 0.010 U
11100-14-4	Aroclor 1268	0.010	< 0.010 U

Reported in $\mu\text{g/L}$ (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	59.8%
Tetrachlorometaxylene	51.8%

SW8082/PCB WATER SURROGATE RECOVERY SUMMARY

Matrix: Water

QC Report No: PN10-Golder Associates
Project: Avery Landing
073-93312

Client ID	DCBP % REC	DCBP LCL-UCL	TCMX % REC	TCMX LCL-UCL	TOT	OUT
MB-090809	67.2%	32-108	40.2%	31-100		0
LCS-090809	73.2%	32-108	47.5%	31-100		0
LCSD-090809	74.0%	32-108	41.5%	31-100		0
G-GA3S-090309	59.8%	19-111	51.8%	21-100		0

Prep Method: SW3510C
Log Number Range: 09-20720 to 09-20720

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: LCS-090809
LCS/LCSD

Lab Sample ID: LCS-090809
LIMS ID: 09-20720
Matrix: Water
Data Release Authorized: *AB*
Reported: 09/15/09

QC Report No: PN10-Golder Associates
Project: Avery Landing
073-93312
Date Sampled: NA
Date Received: NA

Date Extracted LCS/LCSD: 09/08/09

Sample Amount LCS: 1000 mL

LCSD: 1000 mL

Date Analyzed LCS: 09/11/09 14:20

Final Extract Volume LCS: 0.50 mL

LCSD: 09/11/09 14:42

LCSD: 0.50 mL

Instrument/Analyst LCS: ECD5/JGR

Dilution Factor LCS: 1.00

LCSD: ECD5/JGR

LCSD: 1.00

GPC Cleanup: No

Silica Gel: No

Sulfur Cleanup: Yes

Acid Cleanup: Yes

Analyte		Spike	LCS		Spike	LCSD	
	LCS	Added-LCS	Recovery	LCSD	Added-LCSD	Recovery	RPD
Aroclor 1016	0.036	0.050	72.0%	0.034	0.050	68.0%	5.7%
Aroclor 1260	0.045	0.050	90.0%	0.040	0.050	80.0%	11.8%

PCB Surrogate Recovery

	LCS	LCSD
Decachlorobiphenyl	73.2%	74.0%
Tetrachlorometaxylene	47.5%	41.5%

Results reported in $\mu\text{g/L}$

RPD calculated using sample concentrations per SW846.

4
PCB METHOD BLANK SUMMARY

BLANK NO.

PN04MBW1

Lab Name: ANALYTICAL RESOURCES, INC

Client: GOLDER ASSOC

ARI Job No.: PN10

Project: AVERY LANDING

Lab Sample ID: PN04MBW1

Lab File ID: 0911B016

Date Extracted: 09/08/09

Matrix: LIQUID

Date Analyzed: 09/11/09

Instrument ID: ECD5


Time Analyzed: 1357

GC Columns: ZB5/ZB35

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	CLIENT SAMPLE NO. =====	LAB SAMPLE ID =====	DATE ANALYZED =====
01	PN04LCSW1	PN04LCSW1	09/11/09
02	PN04LCSDW1	PN04LCSDW1	09/11/09
03	G-GA3S-090309	PN10A	09/11/09

ALL RUNS ARE DUAL COLUMN

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1Sample ID: MB-090809
METHOD BLANKLab Sample ID: MB-090809
LIMS ID: 09-20720
Matrix: Water
Data Release Authorized: 
Reported: 09/15/09QC Report No: PN10-Golder Associates
Project: Avery Landing
073-93312
Date Sampled: NA
Date Received: NADate Extracted: 09/08/09
Date Analyzed: 09/11/09 13:57
Instrument/Analyst: ECD5/JGR
GPC Cleanup: No
Sulfur Cleanup: YesSample Amount: 1000 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00
Silica Gel: No
Acid Cleanup: Yes

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	0.010	< 0.010 U
53469-21-9	Aroclor 1242	0.010	< 0.010 U
12672-29-6	Aroclor 1248	0.010	< 0.010 U
11097-69-1	Aroclor 1254	0.010	< 0.010 U
11096-82-5	Aroclor 1260	0.010	< 0.010 U
11104-28-2	Aroclor 1221	0.010	< 0.010 U
11141-16-5	Aroclor 1232	0.010	< 0.010 U
37324-23-5	Aroclor 1262	0.010	< 0.010 U
11100-14-4	Aroclor 1268	0.010	< 0.010 U

Reported in µg/L (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	67.2%
Tetrachlorometaxylene	40.2%

Sample ID: G-RS3SSW-090609
SAMPLE

Lab Sample ID: PN53A
LIMS ID: 09-20948
Matrix: Water
Data Release Authorized: VTS
Reported: 09/16/09

QC Report No: PN53-Golder Associates
Project: Avery Landing
073-93312-03
Date Sampled: 09/06/09
Date Received: 09/10/09

Date Extracted: 09/11/09
Date Analyzed: 09/14/09 17:13
Instrument/Analyst: ECD5/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes

Sample Amount: 1000 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00
Silica Gel: No
Acid Cleanup: Yes

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	0.010	< 0.010 U
53469-21-9	Aroclor 1242	0.010	< 0.010 U
12672-29-6	Aroclor 1248	0.010	< 0.010 U
11097-69-1	Aroclor 1254	0.010	< 0.010 U
11096-82-5	Aroclor 1260	0.010	< 0.010 U
11104-28-2	Aroclor 1221	0.010	< 0.010 U
11141-16-5	Aroclor 1232	0.010	< 0.010 U
37324-23-5	Aroclor 1262	0.010	< 0.010 U
11100-14-4	Aroclor 1268	0.010	< 0.010 U

Reported in µg/L (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	74.5%
Tetrachlorometaxylene	60.2%

SW8082/PCB WATER SURROGATE RECOVERY SUMMARY

Matrix: Water

QC Report No: PN53-Golder Associates
Project: Avery Landing
073-93312-03

Client ID	DCBP % REC	DCBP LCL-UCL	TCMX % REC	TCMX LCL-UCL	TOT	OUT
MB-091109	81.2%	32-108	65.0%	31-100		0
LCS-091109	77.8%	32-108	57.0%	31-100		0
LCSD-091109	76.2%	32-108	54.0%	31-100		0
G-RS3SSW-090609	74.5%	19-111	60.2%	21-100		0

Prep Method: SW3510C
Log Number Range: 09-20948 to 09-20948

FORM-II SW8082

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1



Sample ID: LCS-091109
LCS/LCSD

Lab Sample ID: LCS-091109
LIMS ID: 09-20948
Matrix: Water
Data Release Authorized: VTS
Reported: 09/16/09

QC Report No: PN53-Golder Associates
Project: Avery Landing
073-93312-03
Date Sampled: NA
Date Received: NA

Date Extracted LCS/LCSD: 09/11/09

Sample Amount LCS: 1000 mL

Date Analyzed LCS: 09/14/09 14:33
LCSD: 09/14/09 14:56

Final Extract Volume LCS: 0.50 mL
LCSD: 0.50 mL

Instrument/Analyst LCS: ECD5/JGR
LCSD: ECD5/JGR

Dilution Factor LCS: 1.00
LCSD: 1.00

GPC Cleanup: No
Sulfur Cleanup: Yes

Silica Gel: No
Acid Cleanup: Yes

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Aroclor 1016	0.041	0.050	82.0%	0.040	0.050	80.0%	2.5%
Aroclor 1260	0.047	0.050	94.0%	0.045	0.050	90.0%	4.3%

PCB Surrogate Recovery

	LCS	LCSD
Decachlorobiphenyl	77.8%	76.2%
Tetrachlorometaxylene	57.0%	54.0%

Results reported in $\mu\text{g/L}$
RPD calculated using sample concentrations per SW846.

4
PCB METHOD BLANK SUMMARY

BLANK NO.

PN39MBW1

Lab Name: ANALYTICAL RESOURCES, INC

Client: GOLDER ASSOC

ARI Job No.: PN53

Project: AVERY LANDING

Lab Sample ID: PN39MBW1

Lab File ID: 0914B010

Date Extracted: 09/11/09

Matrix: LIQUID

Date Analyzed: 09/14/09

Instrument ID: ECD5

Time Analyzed: 1410

GC Columns: ZB5/ZB35

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	CLIENT SAMPLE NO. =====	LAB SAMPLE ID =====	DATE ANALYZED =====
01	PN39LCSW1	PN39LCSW1	09/14/09
02	PN39LCSDW1	PN39LCSDW1	09/14/09
03	G-RS3SSW-090609	PN53A	09/14/09

ALL RUNS ARE DUAL COLUMN

ORGANICS ANALYSIS DATA SHEET

PCB by GC/ECD Method SW8082

Page 1 of 1

Sample ID: MB-091109

METHOD BLANK

Lab Sample ID: MB-091109

LIMS ID: 09-20948

Matrix: Water

Data Release Authorized: VTS

Reported: 09/16/09

QC Report No: PN53-Golder Associates

Project: Avery Landing

073-93312-03

Date Sampled: NA

Date Received: NA

Date Extracted: 09/11/09

Date Analyzed: 09/14/09 14:10

Instrument/Analyst: ECD5/JGR

GPC Cleanup: No

Sulfur Cleanup: Yes

Sample Amount: 1000 mL

Final Extract Volume: 0.50 mL

Dilution Factor: 1.00

Silica Gel: No

Acid Cleanup: Yes

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	0.010	< 0.010 U
53469-21-9	Aroclor 1242	0.010	< 0.010 U
12672-29-6	Aroclor 1248	0.010	< 0.010 U
11097-69-1	Aroclor 1254	0.010	< 0.010 U
11096-82-5	Aroclor 1260	0.010	< 0.010 U
11104-28-2	Aroclor 1221	0.010	< 0.010 U
11141-16-5	Aroclor 1232	0.010	< 0.010 U
37324-23-5	Aroclor 1262	0.010	< 0.010 U
11100-14-4	Aroclor 1268	0.010	< 0.010 U

Reported in $\mu\text{g/L}$ (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	81.2%
Tetrachlorometaxylene	65.0%

TPHD ANALYSIS

ORGANICS ANALYSIS DATA SHEET

TOTAL DIESEL RANGE HYDROCARBONS

NWTPHD by GC/FID-Silica and Acid Cleaned


Page 1 of 1

Matrix: Water

QC Report No: PN10-Golder Associates

Project: Avery Landing

073-93312

Data Release Authorized: 

Reported: 09/09/09

ARI ID	Sample ID	Extraction Date	Analysis Date	EFV DL	Range	RL	Result
MB-090709	Method Blank	09/07/09	09/07/09	1.00	Diesel	0.25	< 0.25 U
09-20720	HC ID: ---		FID3A	1.0	Motor Oil	0.50	< 0.50 U
					o-Terphenyl		93.2%
PN10A	G-GA3S-090309	09/07/09	09/07/09	1.00	Diesel	0.25	< 0.25 U
09-20720	HC ID: ---		FID3A	1.0	Motor Oil	0.50	< 0.50 U
					o-Terphenyl		89.4%

Reported in mg/L (ppm)

EFV-Effective Final Volume in mL.

DL-Dilution of extract prior to analysis.

RL-Reporting limit.

Diesel quantitation on total peaks in the range from C12 to C24.

Motor Oil quantitation on total peaks in the range from C24 to C38.

HC ID: DRO/RRO indicate results of organics or additional hydrocarbons in ranges are not identifiable.

CLEANED TPHD SURROGATE RECOVERY SUMMARY

Matrix: Water

QC Report No: PN10-Golder Associates
Project: Avery Landing
073-93312

<u>Client ID</u>	<u>OTER</u>	<u>TOT OUT</u>
MB-090709	93.2%	0
LCS-090709	94.5%	0
LCSD-090709	88.7%	0
G-GA3S-090309	89.4%	0

LCS/MB LIMITS QC LIMITS

(OTER) = o-Terphenyl

(51-120)

(41-121)

Prep Method: SW3510C
Log Number Range: 09-20720 to 09-20720

ORGANICS ANALYSIS DATA SHEET

NWTPHD by GC/FID-Silica and Acid Cleaned

Page 1 of 1

Sample ID: LCS-090709

LCS/LCSD

Lab Sample ID: LCS-090709

LIMS ID: 09-20720

Matrix: Water

Data Release Authorized: *[Signature]*

Reported: 09/09/09

QC Report No: PN10-Golder Associates

Project: Avery Landing

073-93312

Date Sampled: 09/03/09

Date Received: 09/04/09

Date Extracted LCS/LCSD: 09/07/09

Sample Amount LCS: 500 mL

LCSD: 500 mL

Date Analyzed LCS: 09/07/09 18:10

Final Extract Volume LCS: 1.0 mL

LCSD: 09/07/09 18:29

LCSD: 1.0 mL

Instrument/Analyst LCS: FID/MS

Dilution Factor LCS: 1.00

LCSD: FID/MS

LCSD: 1.00

Range	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Diesel	2.51	3.00	83.7%	2.46	3.00	82.0%	2.0%

TPHD Surrogate Recovery

	LCS	LCSD
o-Terphenyl	94.5%	88.7%

Results reported in mg/L

RPD calculated using sample concentrations per SW846.

TOTAL DIESEL RANGE HYDROCARBONS-EXTRACTION REPORT

Matrix: Water

Date Received: 09/04/09

ARI Job: PN10

Project: Avery Landing

073-93312

ARI ID	Client ID	Samp Amt	Final Vol	Prep Date
09-20720-090709MB1	Method Blank	500 mL	1.00 mL	09/07/09
09-20720-090709LCS1	Lab Control	500 mL	1.00 mL	09/07/09
09-20720-090709LCSD1	Lab Control Dup	500 mL	1.00 mL	09/07/09
09-20720-PN10A	G-GA3S-090309	500 mL	1.00 mL	09/07/09

4
TPH METHOD BLANK SUMMARY

BLANK NO.

PN04MBW1

Lab Name: ANALYTICAL RESOURCES, INC

Client: GOLDER ASSOCIATES

SDG No.: PN10

Project No.: AVERY LANDING

Date Extracted: 09/07/09

Matrix: LIQUID

Date Analyzed : 09/07/09

Instrument ID : FID3A

Time Analyzed : 1752

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS, and MSD:

	CLIENT SAMPLE NO. =====	LAB SAMPLE ID =====	DATE ANALYZED =====
01	PN04LCSW1	PN04LCSW1	09/07/09
02	PN04LCSDW1	PN04LCSDW1	09/07/09
03	G-GA3S-09030	PN10A	09/07/09

ORGANICS ANALYSIS DATA SHEET

TOTAL DIESEL RANGE HYDROCARBONS

NWTPHD by GC/FID-Silica and Acid Cleaned

Page 1 of 1

Matrix: Water

QC Report No: PN53-Golder Associates

Project: Avery Landing

073-93312-03

Data Release Authorized: VTS

Reported: 09/17/09

ARI ID	Sample ID	Extraction Date	Analysis Date	EFV DL	Range	RL	Result
MB-091009	Method Blank	09/10/09	09/11/09	1.00	Diesel	0.25	< 0.25 U
09-20948	HC ID: ---		FID3A	1.0	Motor Oil o-Terphenyl	0.50	< 0.50 U 93.4%
PN53A	G-RS3SSW-090609	09/10/09	09/11/09	1.00	Diesel	0.25	< 0.25 U
09-20948	HC ID: ---		FID3A	1.0	Motor Oil o-Terphenyl	0.50	< 0.50 U 97.5%

Reported in mg/L (ppm)

EFV-Effective Final Volume in mL.

DL-Dilution of extract prior to analysis.

RL-Reporting limit.

Diesel quantitation on total peaks in the range from C12 to C24.

Motor Oil quantitation on total peaks in the range from C24 to C38.

HC ID: DRO/RRO indicate results of organics or additional hydrocarbons in ranges are not identifiable.

FORM I

PN10:00051

CLEANED TPHD SURROGATE RECOVERY SUMMARY

Matrix: Water

QC Report No: PN53-Golder Associates
Project: Avery Landing
073-93312-03

<u>Client ID</u>	<u>OTER</u>	<u>TOT OUT</u>
MB-091009	93.4%	0
LCS-091009	94.8%	0
LCSD-091009	90.0%	0
G-RS3SSW-090609	97.5%	0

	<u>LCS/MB LIMITS</u>	<u>QC LIMITS</u>
(OTER) = o-Terphenyl	(51-120)	(41-121)

Prep Method: SW3510C
Log Number Range: 09-20948 to 09-20948

ORGANICS ANALYSIS DATA SHEET

NWTPHD by GC/FID-Silica and Acid Cleaned

Page 1 of 1

Sample ID: LCS-091009

LCS/LCSD

Lab Sample ID: LCS-091009

LIMS ID: 09-20948

Matrix: Water

Data Release Authorized: VTS

Reported: 09/17/09

QC Report No: PN53-Golder Associates

Project: Avery Landing

073-93312-03

Date Sampled: 09/06/09

Date Received: 09/10/09

Date Extracted LCS/LCSD: 09/10/09

Sample Amount LCS: 500 mL

LCSD: 500 mL

Date Analyzed LCS: 09/11/09 17:19

Final Extract Volume LCS: 1.0 mL

LCSD: 09/11/09 17:38

LCSD: 1.0 mL

Instrument/Analyst LCS: FID/MS

Dilution Factor LCS: 1.00

LCSD: FID/MS

LCSD: 1.00

Range	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Diesel	2.62	3.00	87.3%	2.45	3.00	81.7%	6.7%

TPHD Surrogate Recovery

	LCS	LCSD
o-Terphenyl	94.8%	90.0%

Results reported in mg/L

RPD calculated using sample concentrations per SW846.

TOTAL DIESEL RANGE HYDROCARBONS-EXTRACTION REPORT

Matrix: Water
Date Received: 09/10/09

ARI Job: PN53
Project: Avery Landing
073-93312-03

ARI ID	Client ID	Samp Amt	Final Vol	Prep Date
09-20948-091009MB1	Method Blank	500 mL	1.00 mL	09/10/09
09-20948-091009LCS1	Lab Control	500 mL	1.00 mL	09/10/09
09-20948-091009LCSD1	Lab Control Dup	500 mL	1.00 mL	09/10/09
09-20948-PN53A	G-RS3SSW-090609	500 mL	1.00 mL	09/10/09

Diesel Extraction Report

PN10:00054

4
TPH METHOD BLANK SUMMARY

BLANK NO.

PN53MBW1

Lab Name: ANALYTICAL RESOURCES, INC

Client: GOLDER ASSOCIATES

SDG No.: PN53

Project No.: AVERY LANDING

Date Extracted: 09/10/09

Matrix: LIQUID

Date Analyzed : 09/11/09

Instrument ID : FID3A

Time Analyzed : 1701

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS, and MSD:

	CLIENT SAMPLE NO. =====	LAB SAMPLE ID =====	DATE ANALYZED =====
01	PN53LCSW1	PN53LCSW1	09/11/09
02	PN53LCSDW1	PN53LCSDW1	09/11/09
03	G-RS3SSW-090	PN53A	09/11/09

METALS ANALYSIS

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS

Page 1 of 1

Sample ID: G-GA3S-090309

SAMPLE

Lab Sample ID: PN10A

LIMS ID: 09-20720

Matrix: Water

Data Release Authorized: 

Reported: 09/16/09

QC Report No: PN10-Golder Associates

Project: Avery Landing

073-93312

Date Sampled: 09/03/09

Date Received: 09/04/09

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	µg/L	Q
3010A	09/04/09	6010B	09/14/09	7429-90-5	Aluminum	50	50	U
200.8	09/07/09	200.8	09/10/09	7440-36-0	Antimony	0.2	0.2	
200.8	09/07/09	200.8	09/10/09	7440-38-2	Arsenic	0.2	2.6	
3010A	09/04/09	6010B	09/14/09	7440-39-3	Barium	3	31	
3010A	09/04/09	6010B	09/14/09	7440-41-7	Beryllium	1	1	U
3010A	09/04/09	6010B	09/14/09	7440-43-9	Cadmium	2	2	U
3010A	09/04/09	6010B	09/14/09	7440-70-2	Calcium	50	20,400	
3010A	09/04/09	6010B	09/14/09	7440-47-3	Chromium	5	5	U
3010A	09/04/09	6010B	09/14/09	7440-48-4	Cobalt	3	3	U
3010A	09/04/09	6010B	09/14/09	7440-50-8	Copper	2	2	U
3010A	09/04/09	6010B	09/14/09	7439-89-6	Iron	50	150	
200.8	09/07/09	200.8	09/10/09	7439-92-1	Lead	1	1	U
3010A	09/04/09	6010B	09/14/09	7439-95-4	Magnesium	50	3,280	
3010A	09/04/09	6010B	09/14/09	7439-96-5	Manganese	1	429	
3010A	09/04/09	6010B	09/14/09	7440-02-0	Nickel	10	10	U
3010A	09/04/09	6010B	09/14/09	7440-09-7	Potassium	500	2,360	
3010A	09/04/09	6010B	09/14/09	7782-49-2	Selenium	50	50	U
3010A	09/04/09	6010B	09/14/09	7440-22-4	Silver	3	3	U
3010A	09/04/09	6010B	09/14/09	7440-23-5	Sodium	500	1,620	
200.8	09/07/09	200.8	09/10/09	7440-28-0	Thallium	0.2	0.2	U
3010A	09/04/09	6010B	09/14/09	7440-62-2	Vanadium	3	3	U
3010A	09/04/09	6010B	09/14/09	7440-66-6	Zinc	10	10	U

U-Analyte undetected at given RL

RL-Reporting Limit

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Page 1 of 1


Sample ID: G-GA3S-090309

MATRIX SPIKE

Lab Sample ID: PN10A

LIMS ID: 09-20720

Matrix: Water

Data Release Authorized: 

Reported: 09/16/09

QC Report No: PN10-Golder Associates

Project: Avery Landing

073-93312

Date Sampled: 09/03/09

Date Received: 09/04/09

MATRIX SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Spike	Spike Added	% Recovery	Q
Aluminum	6010B	50.0 U	2,060	2,000	103%	
Antimony	200.8	0.210	26.3	25.0	104%	
Arsenic	200.8	2.63	28.6	25.0	104%	
Barium	6010B	30.5	1,940	2,000	95.5%	
Beryllium	6010B	1.00 U	501	500	100%	
Cadmium	6010B	2.00 U	495	500	99.0%	
Calcium	6010B	20,400	30,000	10,000	96.0%	
Chromium	6010B	5.00 U	489	500	97.8%	
Cobalt	6010B	3.00 U	486	500	97.2%	
Copper	6010B	2.00 U	497	500	99.4%	
Iron	6010B	152	2,220	2,000	103%	
Lead	200.8	1.00 U	25.3	25.0	101%	
Magnesium	6010B	3,280	13,400	10,000	101%	
Manganese	6010B	429	926	500	99.4%	
Nickel	6010B	10.0 U	474	500	94.8%	
Potassium	6010B	2,360	12,200	10,000	98.4%	
Selenium	6010B	50.0 U	2,000	2,000	100%	
Silver	6010B	3.00 U	525	500	105%	
Sodium	6010B	1,620	11,700	10,000	101%	
Thallium	200.8	0.200 U	24.1	25.0	96.4%	
Vanadium	6010B	3.00 U	516	500	103%	
Zinc	6010B	10.0 U	478	500	95.6%	

Reported in µg/L

N-Control Limit Not Met

H-% Recovery Not Applicable, Sample Concentration Too High

NA-Not Applicable, Analyte Not Spiked

NR-Not Recovered

Percent Recovery Limits: 75-125%

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Page 1 of 1

Sample ID: G-GA3S-090309
DUPLICATE

Lab Sample ID: PN10A


QC Report No: PN10-Golder Associates

LIMS ID: 09-20720

Project: Avery Landing

Matrix: Water

073-93312

Data Release Authorized 

Date Sampled: 09/03/09

Reported: 09/16/09

Date Received: 09/04/09

MATRIX DUPLICATE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Duplicate	RPD	Control Limit	Q
Aluminum	6010B	50 U	50 U	0.0%	+/- 50	L
Antimony	200.8	0.2	0.2 U	0.0%	+/- 0.2	L
Arsenic	200.8	2.6	2.5	3.9%	+/- 20%	
Barium	6010B	31	30	3.3%	+/- 20%	
Beryllium	6010B	1 U	1 U	0.0%	+/- 1	L
Cadmium	6010B	2 U	2 U	0.0%	+/- 2	L
Calcium	6010B	20,400	21,000	2.9%	+/- 20%	
Chromium	6010B	5 U	5 U	0.0%	+/- 5	L
Cobalt	6010B	3 U	3 U	0.0%	+/- 3	L
Copper	6010B	2 U	2 U	0.0%	+/- 2	L
Iron	6010B	150	150	0.0%	+/- 50	L
Lead	200.8	1 U	1 U	0.0%	+/- 1	L
Magnesium	6010B	3,280	3,320	1.2%	+/- 20%	
Manganese	6010B	429	432	0.7%	+/- 20%	
Nickel	6010B	10 U	10 U	0.0%	+/- 10	L
Potassium	6010B	2,360	2,410	2.1%	+/- 500	L
Selenium	6010B	50 U	50 U	0.0%	+/- 50	L
Silver	6010B	3 U	3 U	0.0%	+/- 3	L
Sodium	6010B	1,620	1,620	0.0%	+/- 500	L
Thallium	200.8	0.2 U	0.2 U	0.0%	+/- 0.2	L
Vanadium	6010B	3 U	3 U	0.0%	+/- 3	L
Zinc	6010B	10 U	10 U	0.0%	+/- 10	L

Reported in µg/L

*-Control Limit Not Met

L-RPD Invalid, Limit = Detection Limit

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS


Page 1 of 1

Sample ID: LAB CONTROL

Lab Sample ID: PN10LCS

LIMS ID: 09-20720

Matrix: Water

Data Release Authorized: 

Reported: 09/16/09

QC Report No: PN10-Golder Associates

Project: Avery Landing

073-93312

Date Sampled: NA

Date Received: NA

BLANK SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Spike Found	Spike Added	% Recovery	Q
Aluminum	6010B	2060	2000	103%	
Antimony	200.8	26.1	25.0	104%	
Arsenic	200.8	25.4	25.0	102%	
Barium	6010B	1940	2000	97.0%	
Beryllium	6010B	505	500	101%	
Cadmium	6010B	496	500	99.2%	
Calcium	6010B	9970	10000	99.7%	
Chromium	6010B	495	500	99.0%	
Cobalt	6010B	492	500	98.4%	
Copper	6010B	500	500	100%	
Iron	6010B	2110	2000	106%	
Lead	200.8	25	25	100%	
Magnesium	6010B	10400	10000	104%	
Manganese	6010B	512	500	102%	
Nickel	6010B	490	500	98.0%	
Potassium	6010B	9960	10000	99.6%	
Selenium	6010B	2000	2000	100%	
Silver	6010B	532	500	106%	
Sodium	6010B	10400	10000	104%	
Thallium	200.8	23.7	25.0	94.8%	
Vanadium	6010B	513	500	103%	
Zinc	6010B	490	500	98.0%	

Reported in µg/L

N-Control limit not met

Control Limits: 80-120%

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS


Page 1 of 1

Sample ID: METHOD BLANK

Lab Sample ID: PN10MB

LIMS ID: 09-20720

Matrix: Water

Data Release Authorized: 

Reported: 09/16/09

QC Report No: PN10-Golder Associates

Project: Avery Landing

073-93312

Date Sampled: NA

Date Received: NA

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	µg/L	Q
3010A	09/04/09	6010B	09/14/09	7429-90-5	Aluminum	50	50	U
200.8	09/07/09	200.8	09/10/09	7440-36-0	Antimony	0.2	0.2	U
200.8	09/07/09	200.8	09/10/09	7440-38-2	Arsenic	0.2	0.2	U
3010A	09/04/09	6010B	09/14/09	7440-39-3	Barium	3	3	U
3010A	09/04/09	6010B	09/14/09	7440-41-7	Beryllium	1	1	U
3010A	09/04/09	6010B	09/14/09	7440-43-9	Cadmium	2	2	U
3010A	09/04/09	6010B	09/14/09	7440-70-2	Calcium	50	50	U
3010A	09/04/09	6010B	09/14/09	7440-47-3	Chromium	5	5	U
3010A	09/04/09	6010B	09/14/09	7440-48-4	Cobalt	3	3	U
3010A	09/04/09	6010B	09/14/09	7440-50-8	Copper	2	2	U
3010A	09/04/09	6010B	09/14/09	7439-89-6	Iron	50	50	U
200.8	09/07/09	200.8	09/10/09	7439-92-1	Lead	1	1	U
3010A	09/04/09	6010B	09/14/09	7439-95-4	Magnesium	50	50	U
3010A	09/04/09	6010B	09/14/09	7439-96-5	Manganese	1	1	U
3010A	09/04/09	6010B	09/14/09	7440-02-0	Nickel	10	10	U
3010A	09/04/09	6010B	09/14/09	7440-09-7	Potassium	500	500	U
3010A	09/04/09	6010B	09/14/09	7782-49-2	Selenium	50	50	U
3010A	09/04/09	6010B	09/14/09	7440-22-4	Silver	3	3	U
3010A	09/04/09	6010B	09/14/09	7440-23-5	Sodium	500	500	U
200.8	09/07/09	200.8	09/10/09	7440-28-0	Thallium	0.2	0.2	U
3010A	09/04/09	6010B	09/14/09	7440-62-2	Vanadium	3	3	U
3010A	09/04/09	6010B	09/14/09	7440-66-6	Zinc	10	10	U

U-Analyte undetected at given RL

RL-Reporting Limit

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS

Page 1 of 1

Sample ID: G-RS3SSW-090609

SAMPLE

Lab Sample ID: PN53A

LIMS ID: 09-20948

Matrix: Water

Data Release Authorized:

Reported: 09/21/09

QC Report No: PN53-Golder Associates

Project: Avery Landing

073-93312-03

Date Sampled: 09/06/09

Date Received: 09/10/09

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	µg/L	Q
3010A	09/11/09	6010B	09/18/09	7429-90-5	Aluminum	50	50	U
200.8	09/11/09	200.8	09/14/09	7440-36-0	Antimony	0.2	0.2	U
200.8	09/11/09	200.8	09/14/09	7440-38-2	Arsenic	0.2	0.4	
3010A	09/11/09	6010B	09/18/09	7440-39-3	Barium	3	6	
3010A	09/11/09	6010B	09/18/09	7440-41-7	Beryllium	1	1	U
3010A	09/11/09	6010B	09/18/09	7440-43-9	Cadmium	2	2	U
3010A	09/11/09	6010B	09/18/09	7440-70-2	Calcium	50	11,100	
3010A	09/11/09	6010B	09/18/09	7440-47-3	Chromium	5	5	U
3010A	09/11/09	6010B	09/18/09	7440-48-4	Cobalt	3	3	U
3010A	09/11/09	6010B	09/18/09	7440-50-8	Copper	2	2	U
3010A	09/11/09	6010B	09/18/09	7439-89-6	Iron	50	50	U
200.8	09/11/09	200.8	09/14/09	7439-92-1	Lead	1	1	U
3010A	09/11/09	6010B	09/18/09	7439-95-4	Magnesium	50	2,350	
3010A	09/11/09	6010B	09/18/09	7439-96-5	Manganese	1	2	
3010A	09/11/09	6010B	09/18/09	7440-02-0	Nickel	10	10	U
3010A	09/11/09	6010B	09/18/09	7440-09-7	Potassium	500	690	
3010A	09/11/09	6010B	09/18/09	7782-49-2	Selenium	50	50	U
3010A	09/11/09	6010B	09/18/09	7440-22-4	Silver	3	3	U
3010A	09/11/09	6010B	09/18/09	7440-23-5	Sodium	500	1,320	
200.8	09/11/09	200.8	09/14/09	7440-28-0	Thallium	0.2	0.2	U
3010A	09/11/09	6010B	09/18/09	7440-62-2	Vanadium	3	3	U
3010A	09/11/09	6010B	09/18/09	7440-66-6	Zinc	10	10	U

U-Analyte undetected at given RL

RL-Reporting Limit

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS

Page 1 of 1

Sample ID: G-RS3SSW-090609

MATRIX SPIKE

Lab Sample ID: PN53A

LIMS ID: 09-20948

Matrix: Water

Data Release Authorized:

Reported: 09/21/09

QC Report No: PN53-Golder Associates

Project: Avery Landing

073-93312-03

Date Sampled: 09/06/09

Date Received: 09/10/09

MATRIX SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Spike	Spike Added	% Recovery	Q
Aluminum	6010B	50.0 U	2,050	2,000	102%	
Antimony	200.8	0.200 U	24.9	25.0	99.6%	
Arsenic	200.8	0.360	26.6	25.0	105%	
Barium	6010B	5.91	1,980	2,000	98.7%	
Beryllium	6010B	1.00 U	510	500	102%	
Cadmium	6010B	2.00 U	512	500	102%	
Calcium	6010B	11,100	21,200	10,000	101%	
Chromium	6010B	5.00 U	491	500	98.2%	
Cobalt	6010B	3.00 U	488	500	97.6%	
Copper	6010B	2.00 U	497	500	99.4%	
Iron	6010B	50.0 U	2,090	2,000	104%	
Lead	200.8	1.00 U	24.4	25.0	97.6%	
Magnesium	6010B	2,350	12,700	10,000	104%	
Manganese	6010B	1.53	500	500	99.7%	
Nickel	6010B	10.0 U	492	500	98.4%	
Potassium	6010B	685	11,100	10,000	104%	
Selenium	6010B	50.0 U	2,070	2,000	104%	
Silver	6010B	3.00 U	473	500	94.6%	
Sodium	6010B	1,320	11,800	10,000	105%	
Thallium	200.8	0.200 U	23.3	25.0	93.2%	
Vanadium	6010B	3.00 U	512	500	102%	
Zinc	6010B	10.0 U	492	500	98.4%	

Reported in µg/L

N-Control Limit Not Met

H-% Recovery Not Applicable, Sample Concentration Too High

NA-Not Applicable, Analyte Not Spiked

NR-Not Recovered

Percent Recovery Limits: 75-125%

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS

Page 1 of 1

Sample ID: G-RS3SSW-090609

DUPLICATE

Lab Sample ID: PN53A

LIMS ID: 09-20948

Matrix: Water

Data Release Authorized:

Reported: 09/21/09

QC Report No: PN53-Golder Associates

Project: Avery Landing

073-93312-03

Date Sampled: 09/06/09

Date Received: 09/10/09

MATRIX DUPLICATE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Duplicate	RPD	Control Limit	Q
Aluminum	6010B	50 U	50 U	0.0%	+/- 50	L
Antimony	200.8	0.2 U	0.2 U	0.0%	+/- 0.2	L
Arsenic	200.8	0.4	0.3	28.6%	+/- 0.2	L
Barium	6010B	6	7	15.4%	+/- 3	L
Beryllium	6010B	1 U	1 U	0.0%	+/- 1	L
Cadmium	6010B	2 U	2 U	0.0%	+/- 2	L
Calcium	6010B	11,100	11,500	3.5%	+/- 20%	
Chromium	6010B	5 U	5 U	0.0%	+/- 5	L
Cobalt	6010B	3 U	3 U	0.0%	+/- 3	L
Copper	6010B	2 U	2 U	0.0%	+/- 2	L
Iron	6010B	50 U	50 U	0.0%	+/- 50	L
Lead	200.8	1 U	1 U	0.0%	+/- 1	L
Magnesium	6010B	2,350	2,440	3.8%	+/- 20%	
Manganese	6010B	2	2	0.0%	+/- 1	L
Nickel	6010B	10 U	10 U	0.0%	+/- 10	L
Potassium	6010B	690	720	4.3%	+/- 500	L
Selenium	6010B	50 U	50 U	0.0%	+/- 50	L
Silver	6010B	3 U	3 U	0.0%	+/- 3	L
Sodium	6010B	1,320	1,370	3.7%	+/- 500	L
Thallium	200.8	0.2 U	0.2 U	0.0%	+/- 0.2	L
Vanadium	6010B	3 U	3 U	0.0%	+/- 3	L
Zinc	6010B	10 U	10 U	0.0%	+/- 10	L

Reported in µg/L

*-Control Limit Not Met

L-RPD Invalid, Limit = Detection Limit

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Page 1 of 1

Sample ID: LAB CONTROL

Lab Sample ID: PN53LCS


QC Report No: PN53-Golder Associates

LIMS ID: 09-20948

Project: Avery Landing

Matrix: Water

073-93312-03

Data Release Authorized: 

Date Sampled: NA

Reported: 09/21/09

Date Received: NA

BLANK SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Spike Found	Spike Added	% Recovery	Q
Aluminum	6010B	2060	2000	103%	
Antimony	200.8	24.8	25.0	99.2%	
Arsenic	200.8	25.9	25.0	104%	
Barium	6010B	1990	2000	99.5%	
Beryllium	6010B	508	500	102%	
Cadmium	6010B	508	500	102%	
Calcium	6010B	10300	10000	103%	
Chromium	6010B	494	500	98.8%	
Cobalt	6010B	487	500	97.4%	
Copper	6010B	494	500	98.8%	
Iron	6010B	2080	2000	104%	
Lead	200.8	24	25	96.0%	
Magnesium	6010B	10500	10000	105%	
Manganese	6010B	500	500	100%	
Nickel	6010B	500	500	100%	
Potassium	6010B	10300	10000	103%	
Selenium	6010B	2020	2000	101%	
Silver	6010B	462	500	92.4%	
Sodium	6010B	10700	10000	107%	
Thallium	200.8	23.3	25.0	93.2%	
Vanadium	6010B	505	500	101%	
Zinc	6010B	510	500	102%	

Reported in µg/L

N-Control limit not met

Control Limits: 80-120%

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS

Page 1 of 1

Sample ID: METHOD BLANK

Lab Sample ID: PN53MB

LIMS ID: 09-20948

Matrix: Water

Data Release Authorized

Reported: 09/21/09

QC Report No: PN53-Golder Associates

Project: Avery Landing

073-93312-03

Date Sampled: NA

Date Received: NA

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	µg/L	Q
3010A	09/11/09	6010B	09/18/09	7429-90-5	Aluminum	50	50	U
200.8	09/11/09	200.8	09/14/09	7440-36-0	Antimony	0.2	0.2	U
200.8	09/11/09	200.8	09/14/09	7440-38-2	Arsenic	0.2	0.2	U
3010A	09/11/09	6010B	09/18/09	7440-39-3	Barium	3	3	U
3010A	09/11/09	6010B	09/18/09	7440-41-7	Beryllium	1	1	U
3010A	09/11/09	6010B	09/18/09	7440-43-9	Cadmium	2	2	U
3010A	09/11/09	6010B	09/18/09	7440-70-2	Calcium	50	50	U
3010A	09/11/09	6010B	09/18/09	7440-47-3	Chromium	5	5	U
3010A	09/11/09	6010B	09/18/09	7440-48-4	Cobalt	3	3	U
3010A	09/11/09	6010B	09/18/09	7440-50-8	Copper	2	2	U
3010A	09/11/09	6010B	09/18/09	7439-89-6	Iron	50	50	U
200.8	09/11/09	200.8	09/14/09	7439-92-1	Lead	1	1	U
3010A	09/11/09	6010B	09/18/09	7439-95-4	Magnesium	50	50	U
3010A	09/11/09	6010B	09/18/09	7439-96-5	Manganese	1	1	U
3010A	09/11/09	6010B	09/18/09	7440-02-0	Nickel	10	10	U
3010A	09/11/09	6010B	09/18/09	7440-09-7	Potassium	500	500	U
3010A	09/11/09	6010B	09/18/09	7782-49-2	Selenium	50	50	U
3010A	09/11/09	6010B	09/18/09	7440-22-4	Silver	3	3	U
3010A	09/11/09	6010B	09/18/09	7440-23-5	Sodium	500	500	U
200.8	09/11/09	200.8	09/14/09	7440-28-0	Thallium	0.2	0.2	U
3010A	09/11/09	6010B	09/18/09	7440-62-2	Vanadium	3	3	U
3010A	09/11/09	6010B	09/18/09	7440-66-6	Zinc	10	10	U

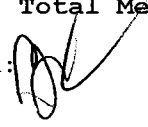
U-Analyte undetected at given RL

RL-Reporting Limit

MERCURY ANALYSIS

INORGANICS ANALYSIS DATA SHEET
Total Mercury by Method SW7470A



Data Release Authorized: 
Reported: 09/09/09
Date Received: 09/04/09
Page 1 of 1

QC Report No: PN14-Golder Associates
Project: Avery Landing
073-93312

Client/ ARI ID	Date Sampled	Matrix	Prep Date Anal Date	RL	Result
G-GA3S-090309	09/03/09	Water	09/04/09	20.0	20.0 U
PN14A 09-20749			09/08/09		
MB-090409	NA	Water	09/04/09	20.0	20.0 U
Method Blank			09/08/09		

Reported in ng/L

RL-Analytical reporting limit
U-Undetected at reported detection limit

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS


Page 1 of 1

Sample ID: LAB CONTROL

Lab Sample ID: PN14LCS

LIMS ID: 09-20749

Matrix: Water

Data Release Authorized: 

Reported: 09/09/09

QC Report No: PN14-Golder Associates

Project: Avery Landing

073-93312

Date Sampled: NA

Date Received: NA

BLANK SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Spike Found	Spike Added	% Recovery	Q
Mercury	7470A	166	200	83.0%	


Reported in ng/L

N-Control limit not met

Control Limits: 80-120%

INORGANICS ANALYSIS DATA SHEET
Total Mercury by Method SW7470A



Data Release Authorized: 
Reported: 09/15/09
Date Received: 09/10/09
Page 1 of 1

QC Report No: PN54-Golder Associates
Project: Avery Landing
073-93312-03

Client/ ARI ID	Date Sampled	Matrix	Prep Date Anal Date	RL	Result
G-RS3SSW-090609 PN54A 09-20950	09/06/09	Water	09/11/09 09/11/09	20.0	20.0 U
MB-091109 Method Blank	NA	Water	09/11/09 09/11/09	20.0	20.0 U

Reported in ng/L

RL-Analytical reporting limit
U-Undetected at reported detection limit

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS

Page 1 of 1

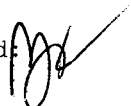
Sample ID: G-RS3SSW-090609

MATRIX SPIKE

Lab Sample ID: PN54A

LIMS ID: 09-20950

Matrix: Water

Data Release Authorized: 

Reported: 09/15/09

QC Report No: PN54-Golder Associates

Project: Avery Landing

073-93312-03

Date Sampled: 09/06/09

Date Received: 09/10/09

MATRIX SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Spike	Spike Added	% Recovery	Q
Mercury	7470A	20.0 U	87.5	100	87.5%	

Reported in ng/L

N-Control Limit Not Met

H-% Recovery Not Applicable, Sample Concentration Too High

NA-Not Applicable, Analyte Not Spiked

Percent Recovery Limits: 75-125%

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS

Page 1 of 1


Sample ID: G-RS3SSW-090609

DUPLICATE

Lab Sample ID: PN54A

LIMS ID: 09-20950

Matrix: Water

Data Release Authorized: 

Reported: 09/15/09

QC Report No: PN54-Golder Associates

Project: Avery Landing

073-93312-03

Date Sampled: 09/06/09

Date Received: 09/10/09

MATRIX DUPLICATE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Duplicate	RPD	Control Limit	Q
Mercury	7470A	20.0 U	20.0 U	0.0%	+/- 20.0	L

Reported in ng/L

*-Control Limit Not Met

L-RPD Invalid, Limit = Detection Limit

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS

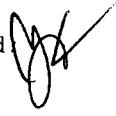
Page 1 of 1

Sample ID: LAB CONTROL

Lab Sample ID: PN54LCS

LIMS ID: 09-20950

Matrix: Water

Data Release Authorized: 

Reported: 09/15/09

QC Report No: PN54-Golder Associates

Project: Avery Landing

073-93312-03

Date Sampled: NA

Date Received: NA

BLANK SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Spike Found	Spike Added	% Recovery	Q
Mercury	7470A	169	200	84.5%	

Reported in ng/L

N-Control limit not met

Control Limits: 80-120%